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apparatus in accordance with the rewrite execution codes transferred from the external apparatus.

REMARKS

This application has been carefully reviewed in light of the Office Action dated October 8, 2002 (Paper No. 19). Claims 15, 16, 18 to 23 and 25 to 35 are currently in the application, of which Claims 15, 22, 29 and 35 are the independent claims.

Reconsideration and further examination are respectfully requested.

Claims 15, 16, 18 to 23 and 25 to 35 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 5,787,288 (Nagata) in view of U.S. Patent No. 6,341,373 (Shaw); Claims 15, 16, 18 to 23 and 25 to 35 were also rejected under § 103(a) over Nagata in view of Shaw and further in view of U.S. Patent No. 5,987,535 (Knodt); and Claims 18 to 20, 25 to 27, 32 and 33 were rejected under § 103(a) over combinations of Nagata, Shaw, Knodt and U.S. Patent No. 5,590,373 (Whitley). Applicants have carefully reviewed the Examiner's comments together with the applied references and respectfully submit that the claims herein are patentably distinguishable over the applied references for at least the following reasons.

The present invention concerns an image forming apparatus having a printing unit in which stored control codes for controlling the image forming apparatus can be rewritten. According to the invention, rewrite execution codes, which are adapted to execute rewriting of the control codes, are transferred from an external apparatus in accordance with transfer control codes, which are adapted to control the transfer of the

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rewrite execution codes. The control codes are then rewritten with new control codes in accordance with the rewrite execution codes.

With reference to particular claim language, independent Claim 15 concerns an image forming apparatus for forming an image in accordance with control codes and includes a printing unit for printing the image. The image forming apparatus also includes a first memory medium for storing the control codes to control the image forming apparatus having the printing unit and display means for displaying messages associated with an image forming operation. A second memory medium stores data received from an external apparatus. A third memory medium stores transfer control codes which are adapted to control transfer of rewrite execution codes from the external apparatus, wherein the rewrite execution codes are adapted to execute rewrite of the control codes stored in the first memory medium. Receiving means receives, from the external apparatus, the rewrite execution codes in accordance with the transfer control codes and new control codes. Rewrite means rewrites the control codes, which have been stored in the first memory medium, with the new control codes stored in the second memory medium, in accordance with the rewrite execution codes stored in the second memory medium. The display means displays a message informing of the fact that the image forming apparatus is under either download of data into the second memory medium or rewrite of the control codes.

Independent Claim 22 concerns a rewrite control method for rewriting control codes, which have been stored in a first memory medium and are adapted to control an image forming apparatus having a printing unit to form an image. Rewrite execution codes, which are adapted to execute rewriting of the control codes stored in the first

memory medium, are received from an external apparatus in accordance with transfer control codes. The transfer control codes are adapted to control transfer of the rewrite execution codes from the external apparatus and have been stored in a third memory medium. The received rewrite execution codes are stored in a second memory medium. New control codes are received from the external apparatus and stored in the second memory medium. The control codes, which have been stored in the first memory medium, are rewritten with the new control codes stored in the second memory medium, in accordance with the rewrite execution codes stored in the second memory medium. A message informing of the fact that the image forming apparatus is under either download of data into the second memory medium or rewrite of the control codes is displayed.

Independent Claim 29 concerns an image forming apparatus for forming an image in accordance with control codes. The image forming apparatus includes a printing unit for printing an image and a code memory for storing the control codes which are adapted to control the image forming apparatus. A memory stores rewrite execution codes from an external apparatus, wherein the rewrite execution codes are adapted to execute rewriting of the control codes. A processor controls the image forming apparatus in accordance with the control codes stored in the code memory. The processor controls transfer of the rewrite execution codes from the external apparatus in accordance with transfer control codes, which are adapted to control transfer of rewrite execution codes from the external apparatus. The processor controls transfer of new control codes from the external apparatus and controls rewriting the control codes, which have been stored in the

code memory, with the new control codes transferred from the external apparatus in accordance with the rewrite execution codes stored in the memory.

Independent Claim 35 concerns a rewrite control method for rewriting control codes, which have been stored in a code memory and are adapted to control an image forming apparatus having a printing unit to form an image. Transfer of rewrite execution codes, which are adapted to execute rewriting of the control codes, from an external apparatus is controlled in accordance with transfer control codes which are adapted to control transfer of the rewrite execution codes from the external apparatus. Transfer of new control codes from the external apparatus is also controlled. Rewriting the control codes, which have been stored in the code memory, with the new control codes transferred from the external apparatus is controlled in accordance with the rewrite execution codes transferred from the external apparatus.

The applied references are not understood to disclose or suggest the foregoing features of the present invention. In particular, the applied references are not understood to disclose or suggest at least the feature of transfer control codes for controlling the transfer of rewrite execution codes from an external apparatus.

Nagata concerns a facsimile machine in which a control program for executing functions can be renewed with a control program received from a central station. However, as conceded in the Office Action, Nagata is not understood to disclose or suggest at least the feature of transfer control codes for controlling the transfer of rewrite execution codes from an external apparatus.

Shaw concerns a system for the secure downloading, recovery and upgrading of data in a client device using information obtained from a server. The client-server system described by Shaw, however, is not understood to concern an image forming apparatus having a printing unit. Accordingly, the field of art with which Shaw is concerned is non-analogous to that of the present invention. As such, the disclosure found in Shaw would not commend itself to the attention of those skilled in the art of the present invention when seeking solutions to problems involving image forming apparatuses with printing units. Therefore, one skilled in the art of the present invention would have no motivation to look to Shaw and combine its teachings with others to derive the present invention. Applicants therefore respectfully submit that the combination of Shaw with Nagata is improper and respectfully request that the rejections over Shaw be withdrawn.

Knodt was applied for its disclosure of a display means for providing an indication of status and capability of a given machine. However, Knodt is not understood to disclose or suggest anything to remedy the foregoing deficiencies of Nagata. In particular, Knodt is not understood to disclose or suggest at least the feature of transfer control codes for controlling the transfer of rewrite execution codes from an external apparatus.

Whitley, which was applied in the rejection of certain dependent claims, was cited for its disclosure of using address information when computer programs are updated in a device. Whitley is not understood, however, to disclose or suggest anything to remedy the foregoing deficiencies of Nagata and Knodt. Specifically, Whitley is not

understood to disclose or suggest at least the feature of transfer control codes for controlling the transfer of rewrite execution codes from an external apparatus.

Accordingly, independent Claims 15, 22, 29 and 35 are believed to be allowable over the applied references. Reconsideration and withdrawal of the § 103(a) rejections of Claims 15, 22, 29 and 35 are respectfully requested.

The other claims in the application are dependent from the independent claims discussed above and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing amendment and remarks, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California, office by telephone at (714) 540-8700. All correspondence should be directed to our address given below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

15. (Four Times Amended) An image forming apparatus for forming an image in accordance with control codes, said image forming apparatus comprising:

a printing unit for printing an image;

a first memory medium for storing the control codes to control said image forming apparatus having said printing unit;

display means for displaying messages associated with an image forming operation;

a second memory medium for storing data received from an external apparatus;

a third memory medium for storing transfer control codes which are adapted to control transfer of rewrite execution codes from the external apparatus, wherein the rewrite execution codes are adapted to execute [rewrite] rewriting of the control codes stored in said first memory medium;

receiving means for receiving, from the external apparatus, the rewrite execution codes in accordance with the transfer control codes and new control codes; and

rewrite means for rewriting the control codes, which have been stored in said first memory medium, with the new control codes stored in said second memory medium, in accordance with the rewrite execution codes stored in said second memory medium,

wherein said display means displays a message informing of the fact that the image forming apparatus is under either download of data into said second memory medium or rewrite of the control codes.

18. (Twice Amended) The image forming apparatus according to Claim 15, wherein the rewrite execution codes include address information of said first memory medium for executing [rewrite] rewriting of the control codes, and said rewrite means executes the [rewrite] rewriting of the control codes, which have been stored in said first memory medium, in accordance with the address information.

22. (Four Times Amended) A rewrite control method for rewriting control codes, which have been stored in a first memory medium and are adapted to control an image forming apparatus having a printing unit to form an image, said rewrite control method comprising:

a first receiving step of receiving rewrite execution codes, which are adapted to execute [rewrite] rewriting of the control codes stored in the first memory medium, from an external apparatus in accordance with transfer control codes, wherein the transfer control codes are adapted to control transfer of the rewrite execution codes from the external apparatus and have been stored in a third memory medium;

a first storing step of storing the received rewrite execution codes in a second memory medium;

a second receiving step of receiving new control codes from the external

apparatus;

a second storing step of storing the received new control codes in the second memory medium;

a rewriting step of rewriting the control codes, which have been stored in the first memory medium, with the new control codes stored in the second memory medium, in accordance with the rewrite execution codes stored in the second memory medium; and

a displaying step of displaying a message informing of the fact that the image forming apparatus is under either download of data into the second memory medium or rewrite of the control codes.

25. (Three Times Amended) The rewrite control method according to Claim 22, wherein the rewrite execution codes include address information of the first memory medium for executing [rewrite] rewriting of the control codes, and the rewrite of the control codes is executed in accordance with the address information.

29. (Twice Amended) An image forming apparatus for forming an image in accordance with control codes, said image forming apparatus comprising:

a printing unit for printing an image;

a code memory for storing the control codes which are adapted to control the image forming apparatus having said printing unit;

a memory for storing [transfer control codes which are adapted to control transfer of] rewrite execution codes from an external apparatus, wherein the rewrite

exaction codes are adapted to execute [rewrite] rewriting of the control codes; and

a processor for controlling the image forming apparatus in accordance with the control codes stored in said code memory,

wherein said processor controls transfer of the rewrite execution codes from the external apparatus in accordance with [the] transfer control codes [stored in said memory] which are adapted to control transfer of rewrite execution codes from the external apparatus, said processor controls transfer of new control codes from the external apparatus, and said processor controls rewriting the control codes, which have been stored in said code memory, with the new control codes transferred from the external apparatus in accordance with the rewrite execution codes [transferred from the external apparatus] stored in said memory.

31. (Amended) The image forming apparatus according to Claim 29, wherein [said memory is a ROM] the image forming apparatus is a copying machine or a printer.

32. (Amended) The image forming apparatus according to Claim 29, wherein the rewrite execution codes include address information of said code memory and said processor controls [rewrite] rewriting of the control codes with the new control codes transferred from the external apparatus in accordance with the address information.

35. (Twice Amended) A rewrite control method for rewriting control codes, which have been stored in a code memory and are adapted to control an image forming apparatus having a printing unit to form an image, said rewrite control method comprising:

a first control step of controlling transfer of rewrite execution codes, which are adapted to execute [rewrite] rewriting of the control codes, from an external apparatus in accordance with transfer control codes which [have been stored in a memory and] are adapted to control transfer of the rewrite execution codes from the external apparatus;

a second control step of controlling transfer of new control codes from the external apparatus; and

a third control step of controlling rewriting the control codes, which have been stored in the code memory, with the new control codes transferred from the external apparatus in accordance with the rewrite execution codes transferred from the external apparatus.

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